CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

September 11, 2003
466th Regular Board Meeting

Item 12

TENTATIVE WASTE DISCHARGE REQUIREMENT
BROWNING-FERRIS INDUSTRIES OF CALIFORNIA, INC.
(SUNSHINE CANYON CITY LANDFILL)

Staff Report

At the special Board meeting on July 24, 2003, the Board heard tentative Waste Discharge Requirements (WDRs) and Monitoring and Reporting Program (M&RP) prepared by staff for the proposed Phase 1 of City Landfill Unit 2 expansion at Sunshine Canyon Landfill. At the end of the hearing, the Board decided to continue the hearing at a later Board meeting and directed staff to gather more information and clarify the proposed project in response to public concerns raised at the special Board meeting. Since then, Browning Ferris Industries, Inc. (BFI), the owner and operator of the landfill, has submitted its responses to questions raised by the Board. In addition, Board staff have also collected more information to answer the questions raised by Board members. The Regional Board have also received more comments from the public regarding the proposed project. These documents, together with transcripts of the July 24, 2003 Board meeting, have been included in the Board meeting package that was sent to Board members on August 29, 2003.

This staff report contains a summary of the information collected by staff, organized in a manner to address specific questions raised by the Board. It also explains changes that have been made to the tentative WDRs and M&RP since the special Board meeting in response to the Board's concerns. A change sheet to the tentative WDRs and M&RP is attached. A response to comments received from the public from July 24 through August 25, 2003, is also attached.

1. **Possible Health Impacts of the Landfill –** Community members have raised concerns regarding the proposed landfill expansion in that pollutants from the landfill may cause cancer, birth abnormalities, miscarriages, respiratory illness, and other health problems to the local community.

   This issue has been raised repeatedly in the past at many public hearings concerning the Sunshine Canyon Landfill and has been addressed in the Final Supplemental Environmental Impact Report (FSEIR) that was certified by the City of Los Angeles in 1999 (Attached). Based on the input of Dr. Paul Papanek (M.D., M.P.H., Chief of the Toxics Epidemiology Program for the Los Angeles County Department of Health Services) and Dr. Thomas Mack (Professor of Preventive Medicine at the University of Southern California School of Medicine), the FSEIR concluded that "the potential environmental impacts on human health would be considered less than significant on the basis of established criteria of public agencies" and that "the proposed project would not create risks to human health if the facility is operated and monitored in accordance with regulatory requirements of various public agencies."

   Following the release of the FSEIR, Dr. Wendy Cozen, Assistant Professor of Clinical Preventive Medicine for the University of Southern California's Cancer Surveillance Program, examined the area surrounding the landfill as part of routine surveillance. In addition, she has submitted a report to the Board dated September 4, 2003 (copy attached), where she stated, in part, "In summary, there

is no evidence of excess cancer occurrence localized to residents of the area surrounding the Sunshine Canyon Landfill. As a final caveat, this report is limited to a risk assessment of cancers only and does not contain information relating to other potential health problems." Dr. Cozen will be available via teleconference at the September 11, 2003 Board Meeting.

In its recent submittals to the Regional Board, BFI presented a study that was conducted the by Pennsylvania Department of Health in the vicinity of two municipal solid waste landfills in the Pennsylvania, which concluded that "Based on the types of cancer in the area and the rates, there isn't an indication that the environment contributed the cancer rates, and there is no environmental data demonstrating the there are human exposures to carcinogens from the landfills that could increase the risk." On the other hand, the North Valley Coalition, who opposes the proposed landfill operation, quoted articles that linked cancer, low birth weight and other health problems to landfills.

After the July 24, 2003 special Board meeting, staff have discussed this issue extensively with Dr. James Stratton of the California Office of Environmental Health Hazardous Assessment (OEHHA). A brochure of California Cancer Registry that explains some cancer related questions is attached at the end of this report. Dr. Stratton will be at the September 11, 2003, Board meeting.

For a landfill, or any other site, to cause adverse health impacts to the surrounding area, there must be pathways that carry pollutants from the site to the human population. In the case of Sunshine Canyon Landfill, potential pathways may include ground and surface water and air-born emissions. Under the strict requirements of the WDRs, no landfill leachate or contaminated surface or groundwater should come in contact with local residents. Air-born emissions, such as landfill gas and dust, at the site are regulated by the South Coast Air Quality Management District (SCAQMD) and the City of Los Angeles, and the California Integrated Waste Management Board (Waste Board).

2. **Wetland Issues** – The Board directed staff to obtain information on how much wetlands the landfill has taken and how much wetlands the proposed landfill expansion will take, the landfill's wetland mitigation plan, and how the 401 certification process works.

In accordance with the Federal Clean Water Act (CWA), BFI must obtain a 404 permit (404 refers to the section of CWA) from the Army Corps of Engineers for the removal of any wetlands at the site. As a condition of obtaining the 404 permit, BFI must apply for a 401 certification from the Regional Board demonstrating compliance with the State water quality regulations. BFI must further obtain a Streambed Alteration Agreement from the State Department of Fish and Game for the impacts on beds, channels, and banks of streams before starting the project. BFI must submit a wetland mitigation plan to regulatory agencies before a 404 permit and a 401 certification are granted.

For the currently operating County Extension Landfill, 3.8 acres of steam zones and wetlands have been removed. The final closure of the inactive City Side Landfill requires the removal of an additional 1.97 acres of stream zone and wetlands (for the construction of a sediment basin at the mouth of Sunshine Canyon). The proposed expansion of City Landfill will require the removal of 3.41 acres of riparian habitat and wetlands. The total area of stream zone and wetland impacted by the landfill is therefore 9.18 acres (excluding those potions of wetlands that were removed by the closed City Side Landfill before the current wetland regulations were in effect.) Based on the FSEIR, no more wetland will be removed after the 3.41-acre wetland removal for the construction of Phase I and City Landfill Unit 2. The 404 permits and 401 certifications for the development of the County Extension Landfill and the closure of the City Landfill have been issued, while the 401 certification for the proposed Phase I of City Landfill Unit 2 is pending.

For the development of the County Extension Landfill, BFI designed and implemented a wetlands restoration project at the Lower Arroyo Seco in Pasadena, with a total area of 26.6 acres. For the final closure of City Landfill Unit 1 and the construction of the proposed City Landfill Unit 2, BFI has submitted a mitigation plan and proposed a wetlands restoration project at the Chatsworth Reservoir Nature Preserve, which will create up to 50 acres of wetlands and riparian habitat.

Normally staff would prefer that all mitigation occur within the same watershed. However, due to the mitigation size requirement and the lack of suitable areas within the local watershed, staff is in agreement with the Corps of Engineers that the Chatsworth Reservoir Site, as proposed by the proponent, is the most appropriate area for mitigation. Staff believes that using this site will increase the likelihood of success because larger mitigation sites are usually more successful, a larger buffer from development is provided, and the property is owned by the City.

To ensure that no wetlands will be removed or damaged unless the proposed landfill expansion is approved, Board staff will not consider issuing 401 certification for the project unless the tentative WDRs are adopted by the Board. If a 401 certification is issued, staff will include sufficient requirements within the 401 Certification to ensure mitigation success and meet the "no-net-loss" goal for wetlands.

3. **Oak Tree Mitigation** – The Board requested information regarding mitigation for oak tree loss at the Sunshine Canyon Landfill.

   The development of the County Extension Landfill resulted in the removal of approximately 3,600 oak trees, while the development of the proposed City Landfill Expansion will result the removal of 510 oak trees. Under an oak tree permit issued by the County of Los Angeles in 1993, BFI must mitigate the loss at a 2:1 ratio. According the BFI, it has so far planted over 15,000 oak tees around the ridgeline of Sunshine Canyon. BFI has applied for an oak tree permit for the proposed City Landfill Expansion from City of Los Angeles. A public hearing is required for the City to issue the oak tree permit.

4. **The Cumulative Impact of the Entire Contemplated Project** – There have been concerns that the project has been piecemealed and that issuing WDRs for Phase 1 of the City Landfill Unit 2 only, instead for the entire site, would result less stringent regulation for the landfill development.

   The cumulative environmental impacts from the entire project (451 acres) have been identified, discussed, and analyzed in the FSEIR. BFI applied for WDRs for only the Phase I of City Landfill Unit 2, instead for the entire site, because such a permit would involve both the County and City of Los Angeles and is administratively very difficult to process. (The Sunshine Canyon Landfill is bisected by a line separating the City and County of Los Angeles and falls into different jurisdictions.) When drafting the tentative WDRs and M&RP, Board staff were fully aware that BFI would apply for WDRs for future phases of the landfill development. No requirement in the tentative WDRs and M&RP is less stringent than what would be in a permit that covered the entire contemplated project.

5. **Sewer System Capacity –** BFI is required to discharge all leachate and gas condensate, as well as certain other wastewaters, such as contaminated groundwater, to the City of Los Angeles sewer system. The Board wanted assurance that there is adequate capacity to take the increased volume of liquid if the entire City/County Landfill is developed.

BFI is currently permitted by the City of Los Angeles to discharge up to 66,200 gallons per day of wastewater to the sewer system, while the current discharge rate averages about 17,000 gallons per day. The projected total volume of discharge after the build-out of the City/County County Landfill is approximately 49,000 gallons per day. In September 2001, the Los Angeles City Bureau of Sanitation (BOS) conducted a sewer availability analysis for the discharge and concluded that the sewer line that receives BFI's discharge can handle a peak flow of up to 100,000 gallons per day. There is therefore adequate capacity for the sewer system to take all the wastewater discharged from any proposed expansion of the Sunshine Landfill.

6. **Corrective Action Program** – The Board directed staff to include a Corrective Action Program (CAP) in the WDRs for the remediation of known groundwater contamination at the site.

California Code of Regulations, title 27 (27 CCR) requires a discharger to institute a CAP when the Regional Board determines that the assessment of the nature and extent of a contamination from an landfill and the design of a CAP have been satisfactorily completed. The discharger is required to submit an amended report of waste discharge (AROWD) for corrective actions for Regional Board approval while implementing an Evaluation Monitoring Program (EMP). BFI is currently implementing an EMP at the Sunshine Canyon City Landfill for the detection of Volatile Organic Compounds (VOCs) and certain inorganic chemicals. On August 7, 2003, BFI submitted an AROWD to the Regional Board and proposed a CAP. After reviewing the document, staff believes that the proposed CAP meets the requirements in State and Federal regulations and has included the CAP in the tentative WDRs by reference. The proposed CAP includes the following proposed actions:

a) Construction of an impermeable subsurface barrier (cutoff wall) across the mouth of the canyon. The wall will be keyed into bedrock and will completely cut off the flow of groundwater within the shallow alluvium zone;
b) Installation and operation of extraction wells to remove groundwater from behind the cutoff wall. This will control the water levels to achieve an inward gradient and thereby prevent any polluted water from flowing out of the canyon;
c) Upgrading and continued operation of the existing groundwater extraction trench that is located up gradient of the proposed cutoff wall;
d) Ongoing upgrades and operation of the City Side Landfill gas collection system to prevent VOCs in the landfill gas from getting into groundwater; and
e) Modification and upgrading of the groundwater monitoring system at the City Side Landfill.

It should be pointed out that, while the CAP is being implemented, the Executive Officer has the authority to order additional corrective measures, if Board staff find the existing program is not adequate to protect ground and surface water resources.

7. **Characterization of 1,4-dioxane Plume** – The Board requested characterization of the plume of 1,4-dioxane (dioxane), a pollutant that has recently been detected in some groundwater wells at the City Side landfill.

The tentative WDRs and M&RP have been revised to include dioxane as a "indicator parameter" that will be analyzed at all water samples from all monitoring points at the landfill. The nature and extent of dioxane contamination at the site will be evaluated under the CAP that is included in the tentative WDRs and M&RP. Since the detection of dioxane is in the same general area where VOCs are detected, the corrective measures included in the CAP are also applicable to the remediation of dioxane contamination. BFI will be required to institute additional remediation

measures if the Executive Officer determines that such measures are necessary for the remediation of dioxane contamination.

8. Off-site Groundwater Monitoring Wells – The Board requested that the WDRs include off-site groundwater monitoring wells in order to obtain more reliable water quality data.

Staff has modified the tentative M&RP to include groundwater monitoring well No. MW-5, which is located at the northeastern border of the landfill and is currently a stand-by well, into the regular monitoring program. With the implementation of the proposed CAP, three more groundwater monitoring wells will be installed down gradient of the cut-off wall and one more groundwater monitoring well will be installed at a location to be determined by Board staff. Additionally, the monitoring frequency of two deep groundwater monitoring wells, DW-1 and DW-4, will be increased from semiannually to quarterly.

With these modifications, the range of groundwater monitoring at the site has been increased both laterally and vertically. Those monitoring wells at the vicinity of the landfill footprint that have not been impacted by the landfill will provide the earliest warning of any release from the landfill. Installation of off-site monitoring wells are necessary when there are indications that pollutants from the landfill are moving close to or across the property border. Board staff will require BFI to install off-site monitoring wells whenever this becomes necessary. However, staff do not believe that such off-site wells are currently necessary at the City Side Landfill.

9. Final Closure of the Existing City Side Landfill – The Board required a clear statement in the WDRs of the preconditions for full closure of the existing landfill.

The final closure of the City Side Landfill is not completed because a) in some portions of the landfill, the thickness of the final cover is less than six feet, which is required in the Final Closure Plan, and b) a sediment basin located at the month of the canyon, also required in the Final Closure Plan, has not been completed. These items have been started and will be completed within 180 days of the adoption of the WDRs, as required in the tentative WDRs. To ensure that final closure is completed on those portions of the City Side Landfill that overlap with the proposed new landfill when the new liner is constructed, the following sentence has been added to the end of Requirement F.1. of the tentative WDRs: "*Construction of the liner system that will be located on the slopes of the existing landfill shall not be started until the final closure construction activity of the existing landfill is completed*."

10. Trash Reduction Program – The Board would like to see incorporated into the WDRs the extent BFI will participate in and support the concept of trash reduction in the City of Los Angeles.

In accordance with the land use conditions set forth by the City of Los Angeles, BFI has proposed in the application to the Regional Board (JTD) to establish an area at the landfill that is devoted to recycling activities. The designated area would include a public convenience/materials recycling center and a green/wood waste processing facility. Activities at these facilities will divert the recyclable waste from being discharged to the landfill. Pursuant to the Los Angeles Administrative Code, BFI will provide approximately $3.3 million per year franchise fees to the City of Los Angeles, which will be used for programs and activities in the City that encourage reducing, reusing, and recycling resources and products. Staff therefore believes that BFI will participate in and support the concept of trash reduction in the City of Los Angeles. However, because these activities are regulated by the Waste Board and the City of Los Angeles and are not directly related the protection of water resources, they are not incorporated in the tentative WDRs.

11. The Effect of Trash Quantity Reduction in 2006 – The Board would like to know what impact there will be to the WDRs if the City of Los Angeles stops sending trash to the Sunshine Canyon Landfill in 2006.

The City of Los Angeles is exploring other disposal options for the up to 3,500 tons per day of waste that are collected by the City's Bureau of Sanitation and currently disposed at the Sunshine Canyon Landfill. However, there are more than 12,000 tons of wastes generated daily within the City of Los Angeles. Currently, BFI turns away approximately 2,000 tons per day of waste and closes early each day as its permitted capacity is reached. In the most recent Los Angeles County Countywide Integrated Waste Management Plan and Siting Element Assessments, Sunshine Canyon has been identified as a necessary element of the County's plan to meet its solid waste disposal needs. The possible loss of waste disposal by the City's Bureau of Sanitation is therefore not expected to affect the need for the Sunshine Canyon Landfill.

12. Impact of the Landfill on Drinking Water Resources – The Board wanted input from the Metropolitan Water District (MWD), which owns the Los Angeles Reservoir and Aqueduct, and Los Angeles Department of Water and Power (DWP), which owns the Jensen Filtration Plant.

Because these drinking water storage and treatment facilities are located downgradient and downwind to the landfill, there have been concerns that pollutants from the landfill may reach drinking water and cause pollution. This issue was addressed in the FSEIR with input from both MWD and DWP. After the July 24, 2003 special Board meeting, staff contacted both these agencies to obtain their comments on the proposed landfill expansion. In a letter dated August 29, 2003, to the Regional Board, Mr. Frank Salas, Chief Administrative Officer of DWP, stated that "*We believe any potential adverse impact to the Los Angeles Reservoir because of Sunshine Canyon Landfill is negligible at this time."* Comments from MWD have not been received, but are in progress.

13 Risk of Earthquake – The Board would like to know if there is a difference of opinion among experts in terms of what the earthquake risk is at the site.

There has been disagreement among experts on what earthquake standard should be applied to the design of landfills in California. As a result, the State Board contracted with the State Department Water Resources (DWR) to review the seismic stability of landfill designs. The Regional Board has required Sunshine Canyon Landfill (and every other operating Class III landfill in our Region) to be built using the same standard (earthquake design) that is required for Class I hazardous waste landfills. The seismic stability designs at the Sunshine Canyon Landfill must pass a critical expert review from DWR.

14 Upgrading of Proposed Landfill Liner System – There have been concerns from the public that the proposed liner system will not be protective of groundwater resources at the site. To address these concerns, and to make the liner system for the proposed landfill expansion more reliable, staff recommend upgrading the liner system by increasing the thickness of the base clay liner from the originally proposed 2 feet to 4 feet and increasing the thickness of the plastic sheet from the originally proposed 60 mils to 80 mils (1 mil equals to 0.001 inch). As indicated in the attached change sheet, these upgrades have been incorporated in the tentative WDRs as Requirement D.3.

The following table compares the minimum standards that are required in State and Federal regulation, the design standard proposed in the JTD, and what is required in the tentative WDRs.

Component	Regulatory Requirement	Proposed in JTD	Required in WDRs
Thickness of Base Clay Liner	2 feet	2 feet	4 feet
Thickness of Plastic Liner	60 mils	60 mils	80 mils
Slope Liner	60 mils HDPE plastic plus GCL on prepared surface or 80 mils HDPE plastic on prepared surface	60 mils HDPE plastic and GCL on prepared surface	80 mils HDPE plastic plus GCL on prepared surface
Leachate Sump	No special requirement	Multi-layers underlain by lysimeters	As proposed in the JTD

Staff believes that considering the low permeability of the bedrock at the site, the liner system initially proposed in the tentative WDRs is protective of groundwater resources. The addition to the liner proposed in the change sheet will make the containment system more reliable and is therefore a more conservative approach.

Conclusions: Staff believe that the issues that were continued from the July 24, 2003 Board meeting have been addressed and recommend that the tentative WDRs and M&RP be adopted.

Attachments:

Change Sheets
Response to Comments Received between July 24 and August 25, 2003
Letter from Los Angeles City Department of Water and Power
Letter from Dr. Wendy Cozen
Brochure of California Cancer Registry
Subsequent Environmental Impact Report (SEIR) and Final Subsequent Environmental Impact Report (FSEIR) Certified by the City of Los Angeles in 1999 (Text recorded on Compact Disc in PDF and WordPerfect formats, illustrations provided in hard copy)